Food and Agriculture
Organization of the
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IUCN SSC
Human-Wildlife
Conflict
Task Force

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HUMAN-WILDLIFE CONFLICT & COEXISTENCE
/ CASE STUDIES

CO-DEVELOPING A COMMUNITY CAMERA TRAPPING PROGRAMME TO DELIVER BENEFITS OF LIVING WITH WILDLIFE

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INTRODUCTION

The Rungwa-Ruaha landscape in United Republic of Tanzania at nearly 50 000 km² is one of the most important wildlife areas in Africa and it supports one of the world's largest remaining populations of lions *Panthera leo* and globally significant populations of African wild dogs *Lycaon pictus*, cheetahs *Acinonyx jubatus*, leopards *Panthera pardus* and spotted hyaenas *Crocuta crocuta.*

> **AT THE HEART OF THE RUAHA LANDSCAPE IS THE RUAHA NATIONAL PARK, THE SECOND LARGEST NATIONAL PARK IN AFRICA, AS WELL AS MULTIPLE GAME RESERVES, WILDLIFE MANAGEMENT AREAS AND VILLAGE LAND.**

Lying adjacent to the southern border of the unfenced protected area is village land, forming an important habitat for large carnivores, especially in the wet season. The landscape is also an important movement corridor for pastoralists linking rangelands, which result in the region having very high rates of human-wildlife conflict. Research in the area found that over 98% of people reported problems with wildlife, with livestock depredation cited as the main concern.

Despite the initial data showing high levels of conflict, prior to 2009, there had been little targeted research on human-carnivore conflict drivers, dynamics and mitigation in the Ruaha landscape. To help fill this gap, and also to provide more information on large carnivore ecology in the area, the Ruaha Carnivore Project (RCP) was founded in 2009. In 2020, RCP merged with work being done in Kenya and Zambia to form Lion Landscapes, one of the largest locally-based carnivore conservation organizations in the world.

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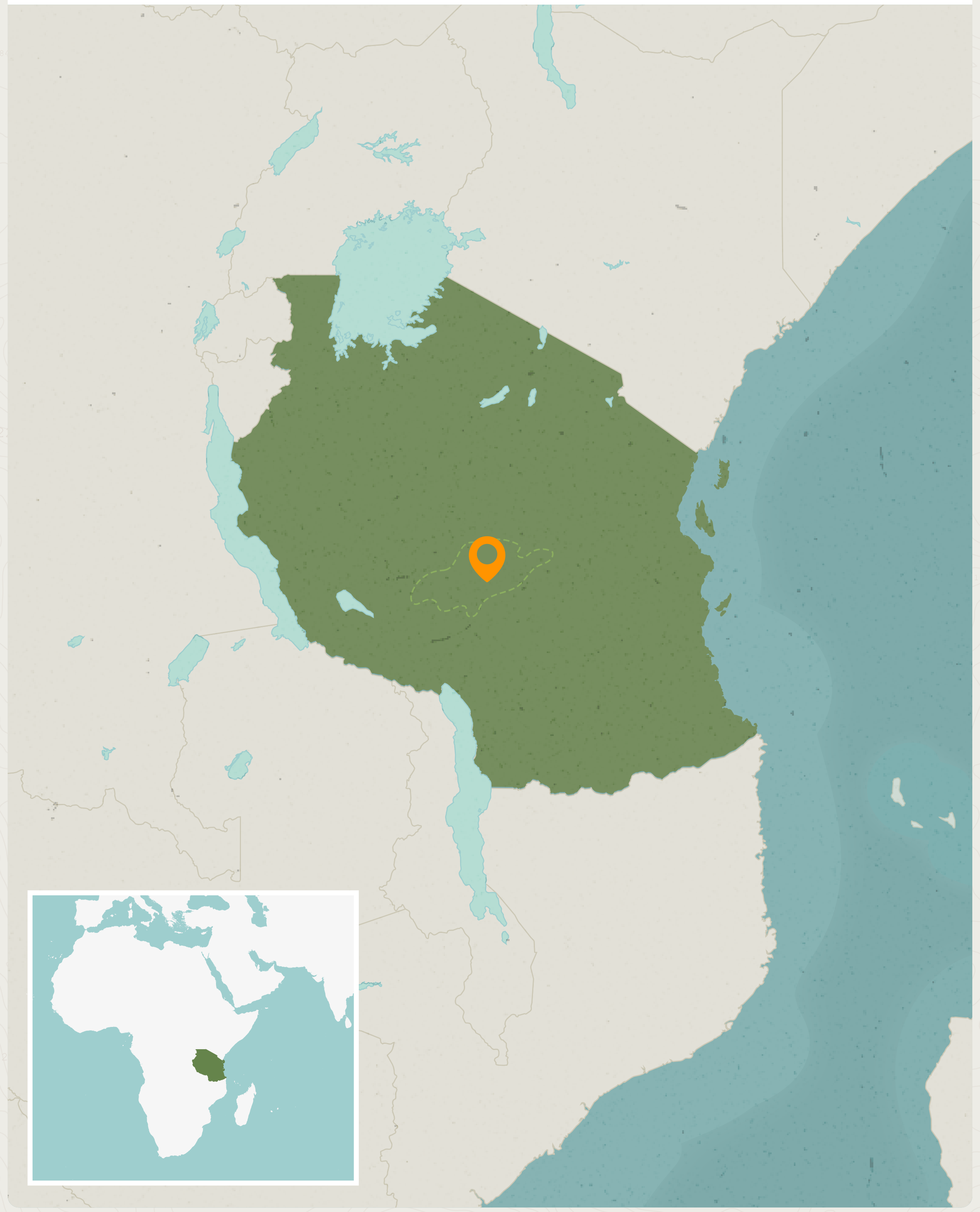
RUAHA

NATIONAL PARK

RUAHA LANDSCAPE,
UNITED REPUBLIC OF TANZANIA

AREA: 50 000 km²



Source: Free Vector Maps modified to comply with UN, 2020

Free Vector Maps 2022. World Map [online] [Cited 5 January 2022] https://freevectormaps.com/world-maps/WRLD-EPS-03-0001

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KEY INSIGHTS & LESSONS LEARNT
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SETTING THE SCENE

THE RUAHA CARNIVORE PROJECT WAS ESTABLISHED ON VILLAGE LAND CLOSE TO RUAHA NATIONAL PARK SO THAT THE PROJECT TEAM COULD GAIN A BETTER FIRST-HAND UNDERSTANDING OF THE LEVELS OF LOCAL CONFLICT TOWARDS WILDLIFE.

When first engaging with the local villagers, it was clear that there was an element of human-human conflict, in that the community was untrusting of the project staff and it took several years for this trust to be developed between the stakeholder groups.

The main 'dispute level' driver of conflict appeared to be the depredation of livestock, with additional concerns over risk to human life. Therefore, the project initially focused on improving people's livestock enclosures (bomas), providing livestock guarding dogs and enabling discussions with villagers about how to more safely live alongside large carnivores. However, carnivore killing did not just occur due to retaliation for livestock predation, there was also a strong cultural element to lion killings in the region, which were often conducted by young warriors from the pastoralist and Barabaig tribes. Killing lions generated social status, prestige and wealth for young men (in the form of rewards of cattle for a successful lion hunt).

Having gained an understanding of why these young warriors killed lions, the project worked with Lion Guardians and Panthera to develop a culturally appropriate warrior engagement programme, where warriors gained wealth and status through conservation employment. The role also enabled them to be community protectors, therefore fulfilling and respecting their traditional warrior role. The warriors tracked lions, warned communities of their presence nearby, helped people protect themselves and their stock, discussed the conservation value of wildlife, and worked to reduce conflict and traditional hunts.

ANALYSIS

Having tried to reduce the costs of living with wildlife and seeing livestock depredation being reduced through reinforced bomas, the project realised that this was not enough in itself.

TO REDUCE HUMAN-WILDLIFE CONFLICT LONG-TERM, THE COMMUNITIES NEEDED TO RECEIVE BENEFITS FROM THE PRESENCE OF WILDLIFE.

Initially, the project held community meetings to understand what benefits the communities might like to receive. The first things that were proposed by the community were benefits such as access to water. This benefit was beyond the control and scope of the project and discussions were then focused on what might be possible for the project to help enable, which would also have a meaningful impact for the community.

The communities noted that livestock health was a big issue, and the project had recorded that nine times as many livestock were killed by disease rather than large carnivores in their research. Another priority that was noted by the community, particularly women, was human health. They felt childbirth and neonatal health care were really important and could be improved. The third priority was education, with community members wanting their children to receive better educational opportunities.

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The project developed several initiatives to create benefits of living alongside wildlife. These benefits included scholarships for education, provision of breakfasts for schoolchildren and programmes on veterinary medicine and healthcare. However, while these programmes were appreciated by the communities, they saw the benefits coming from the project, rather than being linked directly to wildlife presence. Furthermore, although killings had declined, they still occurred at a reasonably high level.

As part of the project's research programme, since 2012 camera trapping was being conducted in the region for ecological monitoring purposes. However, many camera traps were being stolen or damaged.

TO ADDRESS THE CHALLENGES, IN 2015, THE PROJECT INITIATED A COMMUNITY CAMERA TRAPPING PROGRAMME TO CREATE GREATER LINKS BETWEEN COMMUNITY BENEFITS AND THE PRESENCE OF WILDLIFE IN THE AREA.

PROCESS OF SETTING UP A PROGRAMME

The project decided to develop a programme where the villagers themselves conducted the camera trapping.

> **FOR EVERY IMAGE OF A WILD ANIMAL CAPTURED ON A VILLAGE CAMERA TRAP, POINTS WOULD BE ALLOCATED TO THAT VILLAGE.**

Every three months, the points would be tallied and would be swapped for additional community benefits, focused on the local priorities of education, health and veterinary health. Because the project needed to be able to set a budget and seek funds, it was decided that a set amount of benefits (USD 5 000 per group of four villages) would be split amongst them every quarter, as detailed further below.

A pilot programme was initiated with four villages close to the National Park boundary. In each village, two community camera trap officers were trained and employed. Each village selected who should be employed as the camera trap officers, and they were responsible for managing them. Those selected were typically ex-poachers as they had knowledge of wildlife presence.

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Training was provided to the officers in how to set up, maintain and download images from the camera trap, and they were provided with bikes and GPS units to assist in placing the camera traps in the best areas of village land for wildlife. The officers oversaw deciding where to place each camera trap.

Through a series of discussions with the communities from all participating villages, rules were decided on where camera traps could be placed, the number of points each species was worth and how the number of points were determined from images. For example, when multiple individuals of wild animals were captured in one image, each individual contributed to the total number of points for that village. However, if an individual animal continuously triggered the camera by moving backwards and forwards, a delay was placed to avoid double counting.

> **THE FOUR VILLAGES DECIDED ON ALL OF THE RULES OF THE PROGRAMME COLLABORATIVELY AND THESE WERE DOCUMENTED TO ENSURE COMPLETE TRANSPARENCY.**

PROCESS OF SETTING UP A PROGRAMME

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ACTIVITIES

THE VILLAGERS DECIDED THAT EVERY IMAGE OF A WILD ANIMAL CAPTURED WOULD GENERATE A CERTAIN NUMBER OF POINTS DEPENDING ON THE LIKELY RISK OF THAT SPECIES CAUSING CONFLICT AND THE LEVEL OF ENDANGERMENT THAT SPECIES WAS IN.

For example, a Kirk's dik dik *Madoqua kirkii* generated 1 000 points, while a lion generated 15 000 points, and the most valuable animal generating 20 000 points was the endangered and conflict-prone African wild dog. The number of points would be doubled if an animal had a tracking collar, while no points were awarded for animals with evident snare injuries.

ANIMAL	POINTS
KIRK'S DIK DIK	1 000
LION	15 000
AFRICAN WILD DOG	20 000

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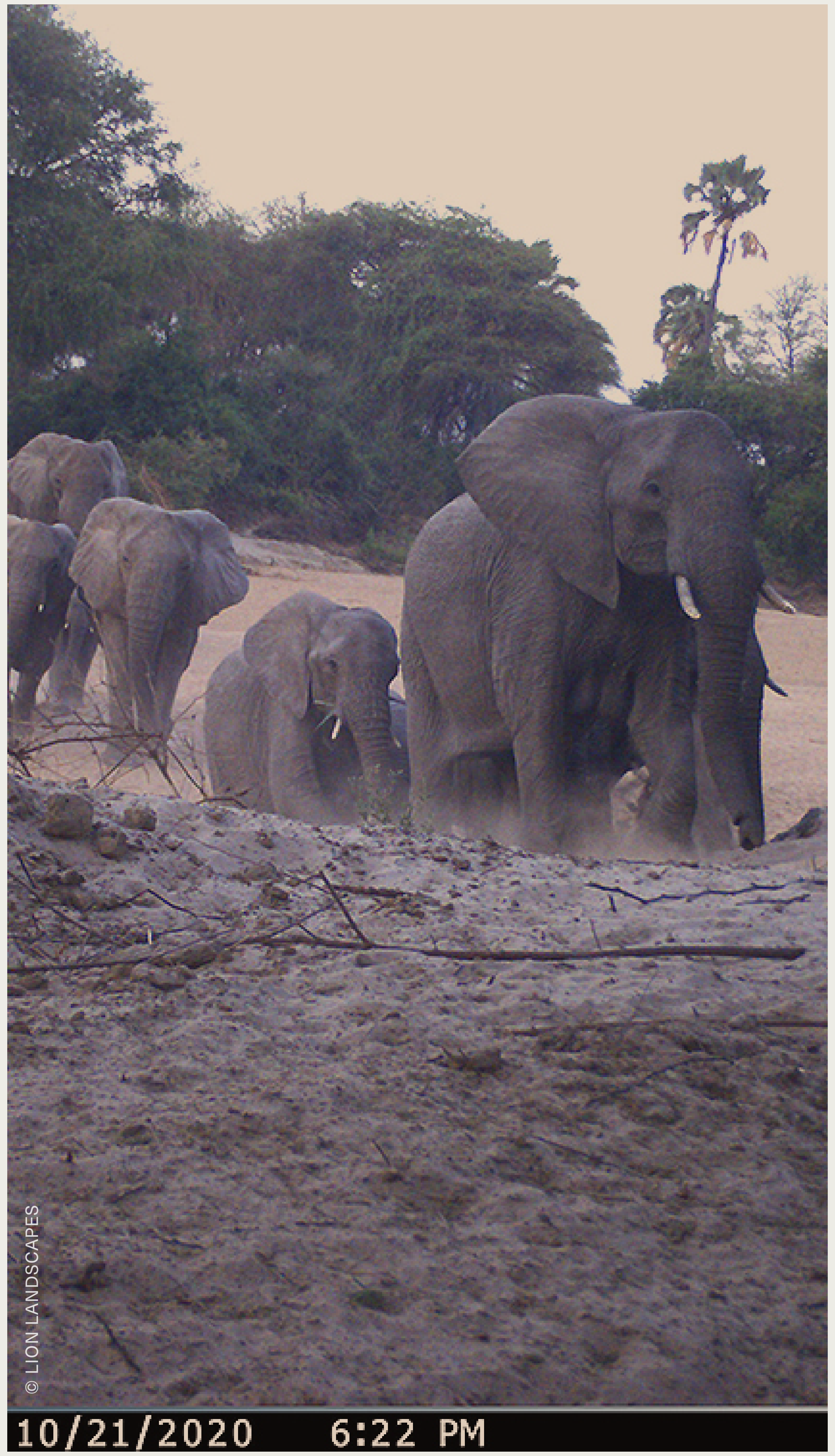

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The four villages would compete against each other on a quarterly basis to see which village could generate the most points. Every month the images were collected and the camera trap officers could place the camera trap in a new location. After three months the village with the most points received around USD 2 000 worth of community benefits. These community benefits were split equally between healthcare, veterinary medicine and education as decided by each village. The village that came second received USD 1 500 worth of benefits, third won USD 1 000 worth and fourth USD 500 worth. At the end of the quarter all four villages would come together in the winning village to hold a celebration known locally as a *sherehe*. During the celebration the benefits would be distributed to all four villages. The points for each village would then be reset and the competition would begin again.

Local villages were invited to visit the participating villages in the programme to see how it was run first-hand and talk to the community members involved. The villages can then request to be involved in the programme. As of 2021, this programme was operating in twelve villages adjacent to Ruaha National Park, with each group of four villages competing against each other for a share of the benefits and adapting the scoring system to that group's local requirements.

OUTCOMES

THE CAMERA TRAPPING PROGRAMME HAS BEEN SUCCESSFUL IN TWO WAYS:

01 IT HAS PROVIDED DATA ON THE WILDLIFE POPULATIONS PRESENT ON VILLAGE LAND

02 IT HAS ENGAGED AND BENEFITED THE COMMUNITY, INCENTIVIZING CONSERVATION

The camera trapping programme has been successful in two ways: not only has it provided data on the wildlife populations present on village land, but it has also engaged the community and generated conservation impact. While previously, the villages received benefits from the project, now the villagers recognise that the benefits are received because of the wildlife present on their land.

> MEMBERS OF THE VILLAGES ACTIVELY LOOKOUT FOR WILDLIFE AND IDENTIFY WHERE BEST TO PLACE CAMERA TRAPS.

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Where previously spotted hyena dens would be poisoned or burnt out to reduce conflict risk, camera trap officers actively look for these dens to place camera traps near them. Some communities have even placed community bans on both lion and African elephant *Loxodonta africana* hunting, and when these activities have occurred, the village has punished the actors involved by fining them cattle as a penalty.

When images from the camera traps are gathered, DVD nights are held to showcase which wildlife species have been captured on the village land. Initially, this was done for transparency purposes but it actually became an important way to engage the wider community and have conversations about the wildlife that was found on the village land. It became apparent that the communities were not aware of what wildlife was on the village land with misidentification of species occurring regularly. The DVD nights allowed the programme to provide information about the wildlife in the area more generally.

KEY INSIGHTS & LESSONS LEARNT

01 STAKEHOLDER ENGAGEMENT

When the programme was initially established, some important actors, such as local politicians in the region, seemed to have some concerns about benefits being distributed while they were not involved in the process. To address this, during the sherehe celebration these stakeholders were invited to attend and present the benefits. This helped with the acceptance of the programme at the regional level.

02 REPRESENTATION

There was a strong representation of all stakeholder groups during designing, managing and implementing all stages of the programme. This not only meant the programme was applicable to the whole community but also beneficial to all members. For example, traditional pastoralists typically suffer the majority of the costs from carnivore presence, so benefits needed to reach these groups specifically to increase acceptance.

03 OWNERSHIP

All activities that were conducted, from designing and managing the programme to the distribution of benefits followed the local cultural processes, helping to ensure that the programme was truly community co-developed and driven. Lots of meetings with participating villages were conducted to address conflicts that did arise between villages. Examples of conflicts included the positioning of camera traps, the boundaries of the village land, and suspicion of camera theft.

04 LOCAL SPECIFICS

Villages in the region were not homogenous and while the programme created benefits for the community, costs of living with wildlife often accrued at the individual level. For this reason, the inclusion of veterinary support was added to assist livestock owners, who were most at risk of carnivore impacts. Likewise, villages were not homogenous in terms of distance to protected areas and the density of wildlife. Therefore, villages were grouped with relatively similar villages to ensure that each village had a reasonably similar chance of winning.

05 ESTABLISHING RULES

The project established clear rules for which villages could be involved in the programme and this was decided early on in the programme. For example, some communities that requested to join the programme were located illegally, and therefore the project decided that although they were in an important wildlife area, they could not provide benefits to a community that's status was illegal.

06 CORRUPTION

Despite benefits being presented to the communities during the sherehe, after the event some benefits would go missing. To address this, notice boards were erected and the benefits distributed were itemised with receipts provided. During the handover, the receipts and itemised lists would be stamped to acknowledge everything was present. In this case, if anything went missing it was up to the village leaders and community members to determine what had occurred. This made the distribution of benefits as transparent as possible.

07 ADAPTIVE PROCESS

Adaptability was and is still required moving forward during the entire process to adjust to requests from the villages regarding how the programme should run. The adaptability of the programme meant that it has the greatest possible acceptance amongst the villagers involved and stays relevant to dynamic conditions.

08 DIVERSE BENEFITS

Some benefits were effective at the village/community level such as desks for schools whereas other benefits were effective at the individual level like household medical insurance. A variety of benefits ensured that they were effective at different levels and a constant assessment of awareness of benefits was necessary to ensure stakeholders associated the benefits with wildlife.

FURTHER INFORMATION

Lion Landscapes

ACKNOWLEDGEMENTS

With thanks to Amy Dickman, BenJee Cascio and Ana Grau for their vital contributions to this case study, and to James Stevens (Programme Officer, IUCN SSC Human-Wildlife Conflict Task Force) for writing the case study, with support provided by Paromita Basak (Wildlife Intern, FAO). The author would also like to acknowledge the valuable and constructive feedback provided by Alexandra Zimmermann (Chair, IUCN SSC Human-Wildlife Conflict Task Force) and Kristina Rodina (Forestry Officer, FAO). PRVRT Creative Studio took care of the graphic design and layout.

ABOUT THE CASE STUDIES

The **Food and Agriculture Organisation** (FAO) of the United Nations and the **IUCN SSC Human-Wildlife Conflict Task Force** (HWCTF) have jointly developed a set of case studies with the aim of covering the process projects have taken to manage various aspects of a human-wildlife conflict & coexistence situation. This case study is one of many that will be used to illustrate key components of the **IUCN SSC Guidelines on Human-Wildlife Conflict & Coexistence**. The published case studies can be found in the **Human-Wildlife Conflict & Coexistence Library**.

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Required citation: FAO and IUCN SSC HWCTF. 2022. *Co-developing a community camera trapping programme to deliver benefits of living with wildlife*. Rome, FAO.

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Contact:
Forestry Division – Willdife and Protected Areas Management
http://www.fao.org/forestry/wildlife
Food and Agriculture Organization of the United Nations
Rome, Italy

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CB8759EN/1/02.22